

## Contributions to the knowledge of Palaearctic Tineidae

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**Abstract.** Examination of tineid specimens from the Mediterranean Region has resulted in the discovery of two new taxa, *Eudarcia (Abchagleris) jaworskii* and *Eudarcia (Neomeessia) alanyacola*. The previously unknown female genitalia of *Nemapogon somchetiella* Zagulajev, 1961 and *Infurcitinea vanderwolffi* Gaedike, 1997 are described for the first time. A study of *Monopis bisonella* Šumpich, 2011 revealed that this taxon is a junior synonym of *Monopis burmanni*, 1979. New country records are given for six species.

### Introduction

Through the courtesy of colleagues, I have been able to examine several interesting tineid specimens from various areas, mainly from the Mediterranean Region. As a result, two new species are described, as well as the previously unknown female genitalia of two other species. From my friend Willibald Schmitz I received several specimens from Jordan, and the identification of these specimens has increased our knowledge of the tineid fauna of this country. The information on the distribution of the taxa, mentioned below, is based on studied material. Additionally it was possible to examine the newly described *Monopis bisonella* Šumpich, 2011 and a comparison with *Monopis burmanni* Petersen, 1979 revealed that *bisonella* is a synonym of *burmanni*.

### Abbreviations

The abbreviations of the institutional collections, in which the material studied is deposited, follow the list “Insect and Spider Collections of the World” from the Bishop Museum, Honolulu (<http://hbs.bishopmuseum.org/codens>).

Coll. Baldizzone	Personal collection of Giorgio Baldizzone, Asti, Italy
Coll. Roweck	Personal collection of Hartmut Roweck, Kiel, Germany
Coll. Schmitz	Personal collection of Willibald Schmitz, Bergisch-Gladbach, Germany
Coll. Šumpich	Personal collection of Jan Šumpich, Česka Bela, Czech Republic
SDEI	Senckenberg Deutsches Entomologisches Institut, Müncheberg, Germany
ZMHB	Museum für Naturkunde der Humboldt-Universität, Berlin, Germany
ZMUC	Zoological Museum, University of Copenhagen, Copenhagen, Denmark
ZSM	Zoologische Staatssammlung, Munich, Germany

### *Rhodobates nodicornellus* (Rebel, 1911)

**Material.** Jordan: 3♂, Al Tafila, Dhana Nature reserve, 1050 m, 12–15.v.2010, leg. R. & S. Fiebig, coll. Schmitz.

This represents the first country record. Hitherto the species was known only from Lebanon.

***Nemapogon anatolica* Gaedike, 1986**

**Material.** Jordan: 2♀, Al Tafila, Dhana nature reserve, 1050 m, 12–15.v.2010, leg. R. & S. Fiebig, coll. Schmitz.

This represents the first country record. Hitherto the species was known from Greece and Turkey.

***Nemapogon signatella* Petersen, 1957**

**Material.** Jordan: 2♂, Al Tafila, Dhana Nature reserve, 1050 m, 12–15.v.2010, leg. R. & S. Fiebig, coll. Schmitz.

This represents the first country record. Hitherto the species was known in Europe from Italy through the Balkan Peninsula and from Cyprus, and outside Europe it was known from Turkey and Iran.

***Nemapogon somchetiella* Zagulajev, 1961****Fig. 3**

**Material.** Italy: 1♂, 1♀, Piemonte, Asti, fraz. Valmanera, Oasi WWF, 200 m, 3, 22.vii.2009, leg. et coll. Baldizzone.

This is the third locality for this species in Italy, which was hitherto known only from the Caucasus region (Zagulajev 1961, 1964) and from Northern Italy (Gaedike 2009). Females were previously unknown.

**Female genitalia** (Fig. 3). Dorsal branches of anterior apophyses very short, each ending in somewhat stronger sclerotised plate, curved to middle, apically rounded and edged with strong sclerotisation; ventral branches connected, band-shaped below ostium; ostium lip shield-shaped, rhomboidal, apically rounded, laterally pointed and connected with the band of ventral branches of apophyses; ductus bursae broad, before corpus bursae the characteristic ring of approximately four rows of sclerotised scales.

***Eudarcia* Clemens**

The two new species, described below, are members of the genus *Eudarcia* Clemens, 1860. Robinson & Nielsen (1993) synonymised with *Eudarcia* the previously separate Palaearctic genera *Meessia* Hofmann, 1898, *Obesoceras* Petersen, 1957, *Neomeessia* Petersen, 1968, *Colchiromis* Zagulajev, 1979, *Abchagleris* Zagulajev, 1979, *Haugresis* Zagulajev, 1979, *Zagulyaevella* Kocak, 1981, and *Pseudobesoceras* Gaedike, 1985 (described as subgenus of *Obesoceras*).

The species of *Eudarcia* are small moths with drooping labial palpi showing terminal and lateral bristles. The antenna is sexually dimorphic, with the male antenna appearing swollen. The male genitalia have the vinculum and tegumen undifferentiated, and a more or less developed saccus. The uncus usually has two setose lobes, sometimes rounded, the gnathos is hardly visible, and a pair of small triangular sclerites

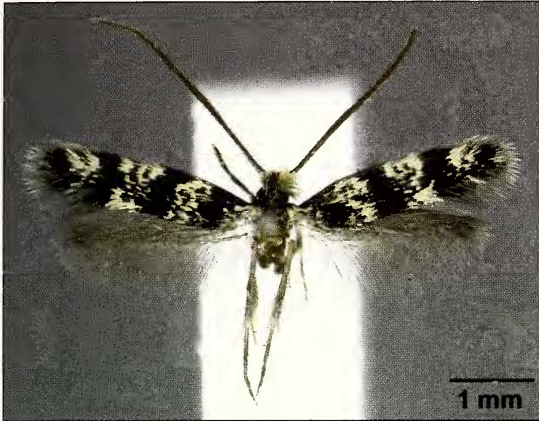


Fig. 1. *Eudarcia (Abchagleris) jaworskii*.

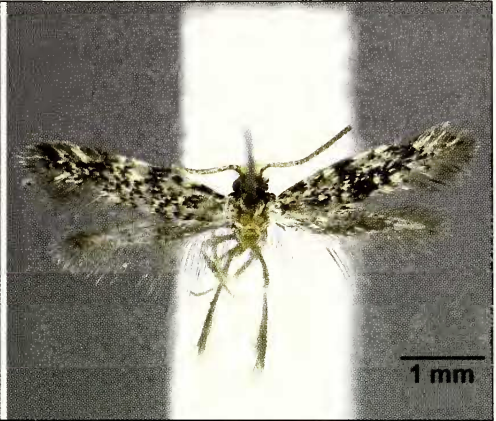


Fig. 2. *Eudarcia (Neomeessia) alanyacola*.

that are fused with the tegumen. The subscaphium often forms a spinose pad between the arms of the gnathos, and several species have processes. The valva is very variable, the phallus short, sometimes prolonged, and the vesica usually has cornuti. The female genitalia have a weakly sclerotised tergite VIII, divided mediolongitudinally. Sternite VIII is hardly sclerotised and connected laterally to the anterior apophyses. The ductus bursae is sometimes strongly sclerotised. The corpus bursae sometimes has serrate sickle-shaped signa. The larvae, as far as known, are lichenophagous and case-makers. A compilation of the recent knowledge on the biology can be found in Robinson (2009). In the Palaearctic Region 50 species are known. These are divided into several species groups at the subgeneric level, for which the synonymised generic names are used. The monophyly of the genus *Eudarcia* seems to be supported by a number of apomorphies (Robinson & Nielsen 1993).

### Subgenus *Abchagleris* Zagulajev, 1979

The subgenus *Abchagleris* is characterised by a mostly prolonged whip-shaped phallus, a more or less simple valva, and a sometimes very complex subscaphium. *Eudarcia sutteri* Gaedike, 1997 shows a reduction in the length of the phallus and a simplification of the subscaphium.

### *Eudarcia (Abchagleris) jaworskii* sp. n.

Figs 1, 4–6

**Material.** Holotype ♂: 'Turkey, WF97 | Guzeloluk, Mersin prov. | 14.vi.2009 | T. Jaworski leg.', 'Gen. präp. [genitalia slide] Gaedike | Nr. 7484', 'Holotypus ♂ | *Eudarcia | jaworskii* sp. n. | det. R. Gaedike 2011', SDEI.

**Diagnosis.** The genitalia structure is similar to that of *E. sutteri* Gaedike, 1997, but in size is twice as large, and the valva (Fig. 7) and phallus (Fig. 8) are distinctly different in shape.

**Description.** (Fig. 1). Wingspan 6 mm; head brush yellowish, grey-brown over collar, lighter above palpi to base of antenna; scape yellowish, flagellum dark grey; labial palpi dark brown, second segment apically bristled; maxillary palpi yellowish; thorax and tegulae grey-brown; tegulae apically whitish; forewing dark grey-brown, with whitish pattern: a band at 1/3 from costa to dorsum, a second one at 1/2 from costa to dorsum, narrower in the middle, and one dot on costa before apex; the whitish areas overlaid with some dark scales; hindwing light grey.

**Male genitalia** (Figs 4–6). Tegumen more or less triangular, apically rounded, without subscaphium, vinculum with two lateral notches, saccus with rounded apex; valva as long as saccus, with long narrow transtilla, narrowest basally, and broadest before rounded apex; costal edge concave, basal edge convex; phallus distinctly longer than valva, slightly curved, with pointed tip and one cornutus, directed from apex to base.

**Female genitalia.** Unknown.

**Etymology.** The species is named in honour of the collector, Tomasz Jaworski.

**Remarks.** The similarity of the shape of uncus-tegumen-saccus, valva, and phallus with *sutteri* place this new species into this subgenus.

### Subgenus *Neomeessia* Petersen, 1968

The subgenus *Neomeessia* is characterised by the shape of the uncus and the lateral socii.

#### *Eudarcia* (*Neomeessia*) *alanyacola* sp. n.

Figs 2, 9–11

**Material.** Holotype ♂: 'Türkei, Alanya | Mahmutlar, Ruine | 17.vi.2005, LF leg. W. Mey', 'Gen.präp. [genitalia slide] Gaedike | Nr. 7212', 'Holotypus ♂ | *Eudarcia* | *alanyacola* sp. n. | det. R. Gaedike 2011', ZMHB.

**Diagnosis.** This species is similar to *Eudarcia lobata* (Petersen & Gaedike, 1979), but socii are claw-shaped (in *lobata* socii are rounded; Fig. 12), the small subscaphium has thorns (in *lobata* without thorns; Fig. 12), the valva has a notch instead of a long hook as in *lobata* (Fig. 13), and the phallus has only one cornutus (in *lobata* it has three cornuti; Fig. 14).

**Description** (Fig. 2). Wingspan 5 mm; head brush creamy, on collar and laterally grey-brown; antenna cream; labial palpi light cream, darker laterally, second segment apically bristled, maxillary palpi light cream; thorax and tegulae grey-brown; forewing dark-brown with numerous cream scales, without a clear pattern; hindwing grey.

**Male genitalia** (Figs 9–11). Uncus oval, basally with claw-shaped socii; tegumen broad, narrower to vinculum, saccus short, pointed; subscaphium short, apically with very small thorns; valva as long as tegumen and saccus, the entire costal edge distinctly convex, basal edge notched at 1/2, the notch with numerous bristles; basal half of valva distinctly broader than apical half; phallus shorter than valva, with one strongly sclerotised, acute cornutus.

Female genitalia. Unknown.

**Etymology.** The species is named after the locality in which the holotype was collected.

### *Infurcitinea amseli* Petersen, 1957

**Material.** **Jordan:** Al Tafila: 2♂, 1♀, Dhana Nature reserve, 1050 m, 12–15.v.2010, leg. R. & S. Fiebig, coll. Schmitz; 2♂, 1♀, Wadi al Haza, 3,5 km east of Afra, 290 m, 21.v.2010, leg. R. & S. Fiebig, coll. Schmitz. Ajlun: 4♂, 7♀, Umgebung Ajlun, 920 m, 8–10.v.2010, leg. R. & S. Fiebig, coll. Schmitz.

These are the first records for this country. Hitherto the species was known from Middle Asia (Turkmenistan, Pakistan, Afghanistan, and Iran).

### *Infurcitinea tauridella* Petersen, 1968

**Material.** **Bulgaria:** Pirin: Sandanski: 2♂, Ploski, 100 m, 17–31.v.2010, leg. N. Savenkov, coll. Roweck; 1♂, Ilindentsi, 500 m, 30.v.2010, leg. N. Savenkov, coll. Roweck.

These are first country records. Hitherto the species was known from Greece and Turkey and from East European Russia.

### *Infurcitinea vanderwolffi* Gaedike, 1997

**Fig. 15**

**Material.** **Croatia:** Dalmatia: 12♂, 4♀, Murter Is., Tijesno, 43°47'27"N, 15°37'31"E, 15–17.vii.2003, leg. et coll. Šumpich; 2♂, Peljesac, Zuljana, 1–13.vii.2005, leg. et coll. Šumpich. **Bulgaria:** 1♀, Piringebirge, Sandanski, Liljanowo, 27.vi–25.vii.1985, leg. F. Eichler, ZSM.

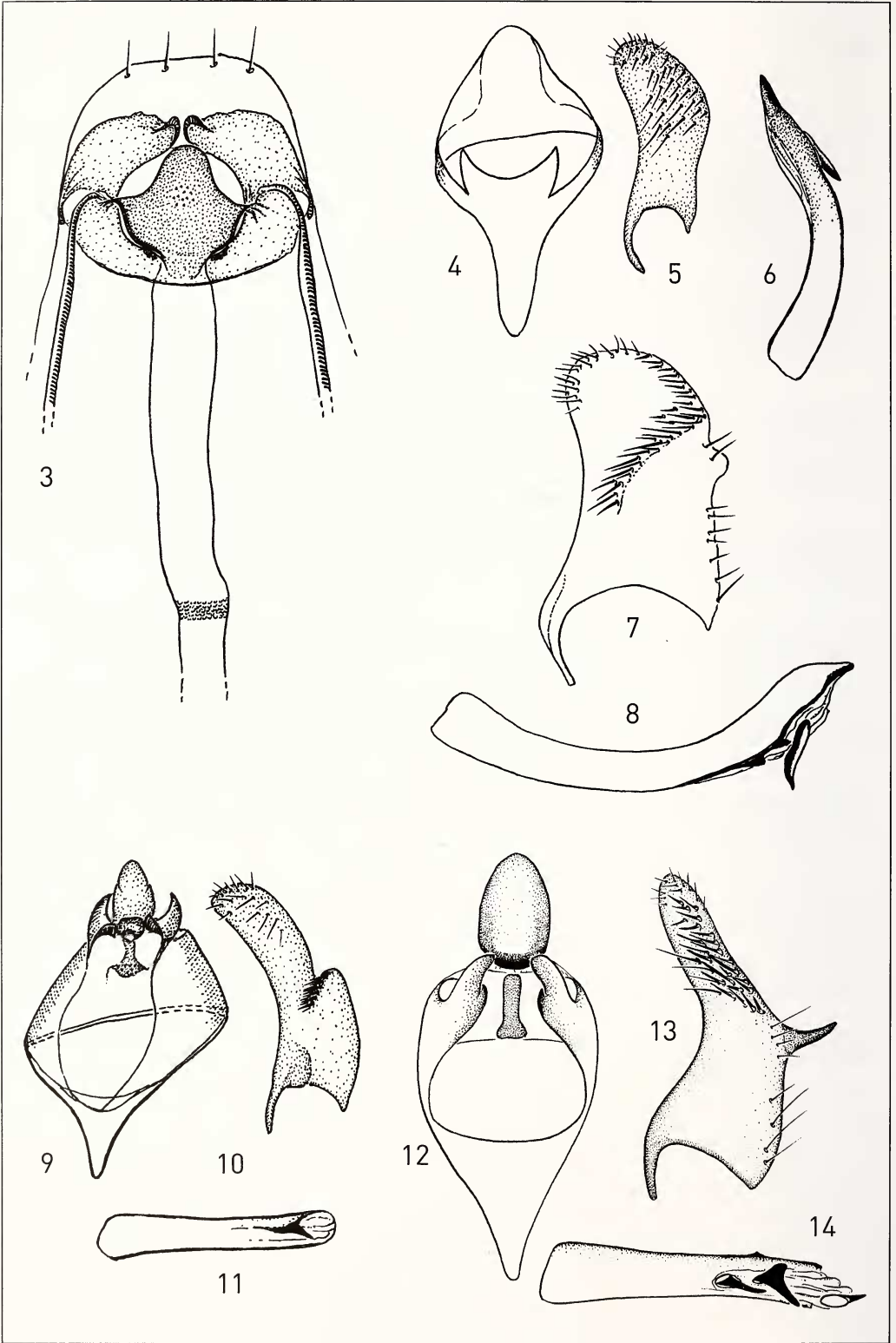
This represents first record for Bulgaria. The species was previously known only from Greece and Croatia (Gaedike 2011). As this material includes first known females of the species, it is now possible to describe this sex as well.

**Female genitalia** (Fig. 15). Anterior apophyses short, ventral branches associated with large, strongly sclerotised plate with numerous longitudinal wrinkles; ostium area deeply incised; dorsum of segment VIII with terminal, beak-shaped, curved process.

**Remarks.** The female morphology is similar to that of *I. albicomella* (Herrich-Schäffer, 1851), but the large, strongly sclerotised plate of sternum VIII distinguishes the female of this species from that of *albicomella*.

### A new synonym of *Monopis burmanni* Petersen, 1979

In 2011 Šumpich described *Monopis bisonella* from Bialowieza, Poland as a new species (Šumpich et al. 2011). The author graciously permitted me to compare a photograph of the holotype and its male genitalia with a paratype specimen of *burmanni*. There are no differences in the forewing pattern, which is characteristic and unique in the genus. The shape of the genitalia, especially of the valva, is also without any differences. These findings strongly suggest that *Monopis bisonella* Šumpich, 2011 and *Monopis*



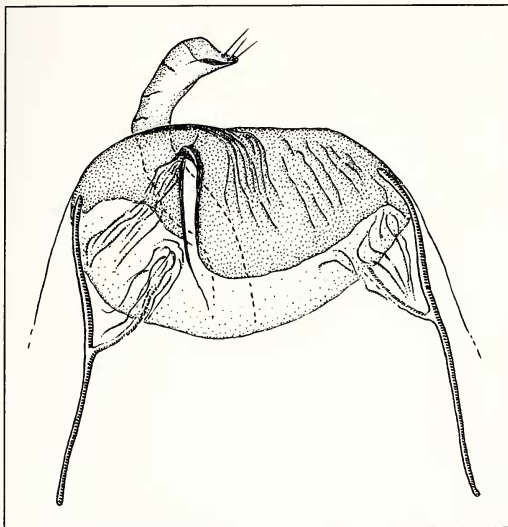


Fig. 15. *Infurcitinea vanderwolfi*, female genitalia.

*burmanni* Petersen, 1979 refer to the same taxon, and consequently *M. bisonella* is here synonymized with *M. burmanni*.

### ***Monopis burmanni* Petersen, 1979**

*Monopis bisonella* Šumpich, 2011; syn. n.

The species was hitherto known from Austria (Northern Tirol: type locality; several other localities, see: [http://www.salzburg.com/wiki/index.php/Monopis\\_burmanni](http://www.salzburg.com/wiki/index.php/Monopis_burmanni)), Poland (Bialowieza: type locality of *M. bisonella*), and Russia (Ural: Sverdlovsk; Burjatia).

### **Acknowledgements**

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**Figs 3–14.** Genitalia of Tineidae. **3.** *Nemapogon somchetiella*, female. **4–6.** *Eudarcia (Abchagleris) jaworskii*, male; **4.** Uncus + tegumen; **5.** Valva; **6.** Phallus. **7–8.** *Eudarcia (Abchagleris) sutteri*, male; **7.** Valva; **8.** Phallus. **9–11.** *Eudarcia (Neomeessia) alanyacola*, male; **9.** Uncus + tegumen; **10.** Valva; **11.** Phallus. **12–14.** *Eudarcia (Neomeessia) lobata*, male (after Petersen & Gaedike 1979); **12.** Uncus + tegumen; **13.** Valva; **14.** Phallus.

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